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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/824,024	04/14/2004	Billy W. McDaniel	2003-IP-012882U1	5994

7590 07/03/2006

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EXAMINER

FULLER, ROBERT EDWARD

ART UNIT	PAPER NUMBER
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3672

DATE MAILED: 07/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/824,024	Applicant(s) MCDANIEL ET AL.	
	Examiner Robert E. Fuller	Art Unit 3672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-57 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-33 and 35-57 is/are rejected.
- 7) ☒ Claim(s) 34 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>20040414</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Specification

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

2. The abstract of the disclosure is objected to because of the use of the phrase "the present invention discloses" in line 7. Correction is required. See MPEP

§ 608.01(b).

3. The abstract of the disclosure is objected to because the word "stimulation" in lines 6 and 7 should be changed to --stimulating--. Correction is required. See MPEP

§ 608.01(b).

Claim Objections

4. Claims 3, 4, 14, 24, 27, 29, 30, 44, 45, 53, and 56 are objected to because of the following informalities: These claims are indefinite because they are not constructed as proper Markush claims. These claims must be rewritten as Markush claims.

Appropriate correction is required.

5. Claims 12 and 42 are objected to because of the following informalities: The phrase "substantially the same chemistry" is indefinite. Applicant must provide a clear description of how the chemistry of the stimulation fluid is similar to that of the drilling fluid. Appropriate correction is required.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-11, 14, 16-25, 31-33, 35-41, 44-54, and 57 are rejected under 35 U.S.C. 102(b) as being anticipated by Shillander (US 3,578,078).

Shillander discloses a method of stimulating a section of a subterranean formation. Shillander teaches the following steps:

- Forming at least a portion of a well bore that penetrates a section of a subterranean formation using a rotary drilling operation (with drilling fluid);

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- Providing a drill string (22) that comprises a stimulation tool (87) interconnected as a part of the drill string and a drill bit (28) attached at an end of the drill string;
- Stimulating a section of the subterranean formation using an acid wash operation with an aqueous-based fluid (column 1, lines 11-13);
- Continuing the drilling operation, which could comprise removing the drill string (22) from the well bore;
- Using a stimulation tool having ports, or nozzles (85);
- Flowing a fluid through the ports to stimulate the formation (column 7, line 67-column 8, line 9);
- Shutting an annulus using an expandable packer (item 25; column 9, line 61 – column 10, line 3);
- Introducing a cleaning fluid into the well bore in order to force drilling fluid out of the apparatus (column 10, lines 9-14);
- Opening the ports prior to flowing the stimulation fluid through the ports, where the opening of the ports comprises a mechanical activation system (column 9, lines 43-60) with a sliding sleeve (27);

With regard to claims 2, 32, and 57, Shillander does not explicitly teach removing the drill string from the wellbore after completing the stimulation operation. However, there is nothing precluding Shillander's device from being removed from the wellbore directly after stimulating the formation.

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With regard to claims 8, 19, 20, 38, 48, and 49, a "second fluid" could comprise drilling fluid, which could contain many different types of additives to enhance the stimulation of the formation.

With regard to claims 18 and 47, Although Shillander does not explicitly disclose that the stimulation fluid is jetted out of the nozzles with sufficient pressure to form a cavity in the formation, this would have to be true of Shillander's device in order for the device to effectively treat the formation with an acid wash. Judging from the relative size of the nozzles (85) and the length of the drill string ("20,000 feet or more," column 1, line 23), it appears that the stimulation fluid would exit the nozzles at a very high pressure.

With regard to claims 25 and 54, although Shillander does not explicitly teach positioning the stimulation tool in the well bore adjacent to a second section of the formation, it appears that his device is designed to be reusable for treating multiple formations in a well bore (column 10, lines 26-40).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claims 12, 13, 15, 42, and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shillander.

Shillander fails to disclose the stimulation fluid having substantially the same chemistry as the drilling fluid. Shillander also fails to disclose the stimulation fluid being an unweighted drilling fluid, nor does Shillander disclose the stimulation fluid being a relative permeability modifier.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have used, in conjunction with Shillander's device, a stimulating fluid with a chemistry similar to that of drilling fluid, said fluid being an unweighted drilling fluid or a relative permeability modifier, as the examiner hereby takes official notice that it was notoriously conventional in the art to have used drilling fluids with a multitude of additives to both stimulate formations as well as prevent drilling fluid loss into formations.

10. Claims 26, 27, 30, 55, and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shillander in view of Soliman (US 5,111,881).

Shillander fails to disclose sealing the treated formation using a degradable sealant, a fluid, or a solid.

Soliman teaches a method of sealing a treated subterranean formation. Soliman teaches the use degradable sealants such as polysaccharides (column 6, lines 43-63).

It would have been considered obvious, at the time the invention was made, to have sealed the formation treated by the device of Shillander with the plugging agents disclosed by Soliman, in order to have provided temporary protection for the treated formations from the pressurized fluids introduced into the well bore as the drilling operations continued.

11. Claims 26-29, 55, and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guinn (US RE27,459).

Shillander fails to disclose sealing the treated formation using a degradable sealant, a fluid, or a solid.

Guinn teaches a method of sealing a treated subterranean formation. Guinn further teaches the use of fluids such as cement (column 4, lines 50-52), and solids such as salt and paraffin beads (column 4, lines 38-39).

It would have been considered obvious, at the time the invention was made, to have sealed the formation treated by the device of Shillander with the plugging agents disclosed by Guinn, in order to have protected the formations which had been treated from the pressurized fluids introduced into the well bore as the drilling operations continued.

Allowable Subject Matter

12. Claim 34 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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The following is a statement of reasons for the indication of allowable subject matter: In order for Shillander's device, as well as similar prior art devices such as Lynes (US 3,233,676) to function, the drill bit must be pressed against the borehole bottom. Therefore, the device of Shillander would not be able to treat additional formations as it is lifted out of the hole. The prior art of record does not teach or suggest the ability to treat additional formations as the drill string is being removed from the well bore.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following references further teach the state of the art with regard to devices and methods for stimulating a subterranean formation during drilling operations.

US 3,233,676 – Lynes

US 3,327,781 – Nutter

US 3,529,665 - Malone

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert E. Fuller whose telephone number is 571-272-0419. The examiner can normally be reached Monday thru Friday from 8:00 AM - 5:30 PM. The examiner is normally out of the office every other Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David J. Bagnell can be reached on 571-272-6999. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

06/21/2006
REF


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